

Summary

The invention relates to a method for detecting the effect of different chemotherapeutic agents and/or radiation therapy in malignant diseases, wherein the expression profile of tumor and/or cell growth and/or apoptosis-associated genes and/or individual differences (mutations) in gene sequences are determined. Changes associated with chemotherapeutic agents and/or radiation therapy are identified, represented and diagnostically evaluated. The invention further relates to a method for selecting more effective therapeutic agents for the therapy of malignant diseases. The status of cell cycle genes and/or apoptosis-associated target genes or gene products thereof in body fluids, cells and/or organs is determined and diagnostically evaluated to determine their effect on corresponding therapeutic agents. In a preferred embodiment, Bax and p53 expressions or mutations are investigated and the findings therefrom are used for deciding individual-specific therapy in leukemia and other malignant diseases.